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U. S. DEPARTMENT OF AGRICULTURE - FOREST SERVICE
California Forest and Range Experiment Station
Division of Forest Insect Research

FOREST INSECT CONDITIONS IN CALIFORNIA - 1954

The following information has been assembled from reports received from various private, state, and federal cooperators and from information gathered by personnel of this Station. With three notable exceptions, loss conditions in the State can be considered at the same comparatively low level as they were last year. The exceptions are: (1) the Douglas-fir beetle, currently epidemic in Douglas-fir stands of the north coast and now causing heavy losses in old growth stands; (2) the lodgepole needle miner-mountain pine beetle complex in Yosemite National Park, which is creating another ghost forest in the high country lodgepole pine; and (3) the fir engraver beetle, which is causing heavy scattered losses throughout the Sierra. Mountain pine beetle-caused losses in sugar pine remain at a high endemic level throughout most of the west-side Sierra. Serious damage by the western pine beetle and pine engravers throughout most of the pine belt has been noteworthy by its absence. Bark-beetle losses in southern California have shown a decided improvement generally, but the California flatheaded borer in Jeffrey pine continues to exact a heavy toll, particularly in areas where no control has been attempted. Both sugar pine and Douglas-fir cone crops are being hard hit by cone and seed insects again this year.

A. DOUGLAS-FIR BEETLE

1. Klamath River and Trinity River Drainages - Del Norte, Humboldt, Siskiyou, Trinity Counties

Heavy Douglas-fir losses due to the Douglas-fir bark beetle are occurring throughout the Klamath River and Trinity River drainages, and now cover an estimated 200,000 acres. Ground and aerial surveys of late June and July indicate a probably total loss, including 1954 kills, of 100,000,000 board feet. This infestation has increased considerably over last year, and at present possesses a potential capable of causing further severe losses should conditions continue to favor high insect populations. Steps are currently being taken to shift logging operations into areas of heavy loss so as to salvage as much of the beetle-killed timber as possible.

Action:--Continue plans for salvage where feasible.

B. LODGEPOLE NEEDLE MINER

2. Yosemite National Park - Tuolumne, Mariposa Counties

The lodgepole needle miner infestation of some 46,000 acres, continues at a high level with no definite downward trend in populations apparent. Research studies involving biology and control measures were continued this past season. Preliminary tests with several insecticides show promise.

Action:--No control recommended pending results of further research studies.

3. Sequoia-Kings Canyon National Parks - Fresno, Tulare Counties

Known damage caused by the lodgepole needle miner in the high country lodgepole pine continues.

Action:--Continued surveillance.

C. MOUNTAIN PINE BEETLE

4. Yosemite National Park - Tuolumne, Mariposa Counties

Mountain pine beetle-caused losses, in severely needle miner-defoliated lodgepole, are increasing rapidly within the Conness Basin-McCabe Basin areas; this, despite a large-scale project carried on in Conness Basin last spring. An appraisal survey this September indicated that there were 3945 infested trees on 750 acres.

Action:--Control recommendations have been made; however, the Park Service has decided, for administrative reasons, not to carry out control.

5. Crystal Bay - Lake Tahoe, Nevada

The mountain pine beetle continues to exact heavy losses in this second-growth ponderosa pine stand. A survey of the area this past summer indicates no reduction in losses over previous years.

Action:--Control has been recommended in the area on two occasions, but no action has been taken.

6. Reds Meadow - Madera County

Current mountain pine beetle-caused losses of lodgepole pine trees in campgrounds are low. The area has been under maintenance control through the use of penetrating oil sprays for several seasons.

Action:--Continued maintenance control in and around campgrounds.

7. Yosemite National Park - Tuolumne, Mariposa Counties

Aside from the previously mentioned insect problem areas of lodgepole pine, there are high-use areas within the Park which are set up as maintenance control zones. Control measures are applied annually against mountain pine beetle, western pine beetle and pine engravers. Losses within these maintenance control zones are at a relatively low level, the most serious problem noted this past season being the top-killing of several sugar pines along the Glacier Point road above Chinquapin. This was probably due to the mountain pine beetle and the pine engraver beetle.

Action:--Continued maintenance control within established zones.

8. Big Creek-Lost Meadow - Fresno County

Mountain pine beetle-caused losses have increased within this area following the top-killing of many sugar pines and ponderosa pines by pine engraver beetles. Most of the trees involved are seed trees left by last year's logging operations.

Action:--No control recommended pending further ground checking.

9. Sequoia-Kings Canyon National Parks - Fresno, Tulare Counties

Maintenance control measures against broods of the mountain pine beetle, western pine beetle, Jeffrey pine beetle and pine engraver beetles have been carried on annually within high use areas of these parks. This year flights over the parks, during the annual aerial survey, found losses to be very low.

Action:--Continued maintenance control within establishsed zones.

D. FIR ENGRAVER BEETLE

10. Sierra Subregion

Information gathered from mortality plots throughout this subregion reveals heavy scattered fir engraver beetle losses in white fir. Although the present white fir loss is down in comparison to the extremely high losses of the past few years, it is nonetheless a serious problem.

Action:--No control recommended.

E. JEFFREY PINE BEETLE AND CALIFORNIA FLATHEADED BORER

11. Deadman Recreation Area - Mono County

An appraisal survey of beetle-caused losses in Jeffrey pine stands in this area was conducted during July of this year. The cruise indicated that the Jeffrey pine beetle and the California flatheaded borer are responsible for losses in virgin stands amounting to 254.2 bd ft./acre, as opposed to 14.5 bd. ft./acre in stands where high risk trees had been logged. Thus, the benefits of sanitation-salvage logging within this Jeffrey pine stand are apparent.

Action:--Continued sanitation-salvage logging in virgin stands in this area.

12. Indiana Summit Natural Area - Mono County

Jeffrey pine losses due to the Jeffrey pine beetle and the California flatheaded borer have increased over previous years. Examination of the area revealed a high percentage of high risk trees present in the stand. This undoubtedly accounts for the present high loss level. Adjacent areas which were risk cut show a very low level of insect-caused tree mortality.

Action:--Being a natural area, no control is advocated.

13. Lassen Volcanic National Park - Shasta County

Last spring the Badger Mountain Jeffrey pine beetle control project reduced losses in this area by some 65%, as found from a recent appraisal survey of this area. Bark beetle-caused losses around Butte Lake are relatively high, and plans are currently being made to carry out control by contract.

Action:--Continue maintenance control within established zones, including control work at Butte Lake. Maintain post-control surveillance of Badger Mountain control area.

F. WHITE-FIR SAWFLY

14. Sierra Region

Fir sawfly damage is in evidence throughout most of the Sierra, extending from the North Warner Mountains to the Sierra National Forest in the south, and possibly farther. Although damage is widespread, no serious tree losses have been reported. Heavy defoliation which occurred within the LaPorte area during the last two years has died down, primarily as a result of a native virus disease which attacks the sawfly larvae.

Action:--No control necessary. Continued surveillance of this situation.

G. OSLAR'S TUSSOCK MOTH

15. Dorrington - Tuolumne County

An outbreak of Oslar's tussock moth has developed in the general area around Dorrington. Little is known concerning outbreaks of this particular insect in California, and consequently its possible destructive potentialities are not known.

Action:--No control recommended. Close surveillance of this area should be maintained to determine the trend of the infestation.

H. SPRUCE BUDWORM

16. North Warner Mountains - Modoc County

Although the spruce budworm has occurred in the white fir of this area for many years, it has never caused any serious losses. Damage by this insect has been on the decline for the last couple of years, and is considered to be lower this year than last.

Action:--Continued surveillance.

I. FLATHEADED FIR BORER

17. Cayton Valley and Pondosa Tract - Shasta County

The serious Douglas-fir losses caused by the flatheaded fir borer last year have died down, presumably as the result of salvage of infested trees.

Action:--Continued surveillance.

J. PINE ENGRAVER BEETLES AND WESTERN PINE BEETLE

18. Northern California

Damage by the pine engraver beetle and the western pine beetle has been very light this year. Aside from the top-killing previously mentioned in Yosemite and the Big Creek-Lost Meadow areas, there have been no outbreaks reported.

Action:--None required.

19. Foothill Areas of Amador, Calaveras and Nevada Counties

The recent aerial survey noted losses in the ponderosa pine stands of these areas, mainly about Pine Lodge, Pine Grove, Fiddletown, Volcano, Dew Drop, West Point and Osborn Hill. As yet no ground checking has been attempted.

Action:--No control recommended pending ground checking of these areas.

20. Institute of Forest Genetics - Eldorado County

A few scattered bark beetle-killed trees have shown up in the vicinity of the Institute; however, annual maintenance control is keeping the loss to a minimum.

Action:--Continued maintenance control.

K. CONE AND SEED INSECTS

21. Northern California

Heavy losses in cones and seeds of Douglas-fir and sugar pine, caused by various insects, have occurred during the past season. Preliminary sampling of the damage to Douglas-fir cones and seeds shows losses ranging from 53% to 89%. Damage to the sugar pine seed crop is somewhat spotty, varying with little damage in some areas to very serious damage in others.

Action:--No control known. Further research needed.

SOUTHERN CALIFORNIA

Project Area	Acreage	Insect1/ Species	Host2/	Recommended Action
LOS PADRES				
Figueroa Mtn.	1,500	Db	PP-CP	Maintenance control
Mt. Pinos	2,500	Db-FH	PP	Sanitation-salvage
Grade Valley	5,000	FH	JP	Sanitation-salvage
Alamo Mtn.	1,500	Db-FH	PP-JP	Salvage, if possible
ANGELES				
Charlton-Chilao & Barley Flats	2,300	Db	PP-CP	Maintenance control and salvage
Crystal Lake	1,000	Db-Dj	PP-JP	Maintenance control
Big Pines-Wrightwood	?	FH	JP	Sanitation-salvage
SAN BERNARDINO				
Arrowhead-Crestline	18,000	Dm-Db-Dj	JP-PP-CP	Maintenance control and salvage
San Jacinto	14,500	Db-FH	JP-PP-CP	Maintenance control
Barton Flats	7,500	Db-Dj	PP-JP	Sanitation-salvage
CLEVELAND				
Laguna Mtn.	10,000	Db-Ips	JP-PP-CP	Maintenance control and salvage
Corte Madera	1,600	Db-FH	JP-PP-CP	Maintenance control
Cuyamaca R. St. Park	4,000	Db-FH	JP-PP-CP	Maintenance control
Julian	3,000	Db	PP	Salvage & direct control

1/ Db - Western pine beetle
Dm - Mountain pine beetle
Dj - Jeffrey pine beetle
FH - California flatheaded borer
Ips- Pine engraver beetle

2/ PP - Ponderosa pine
JP - Jeffrey pine
CP - Coulter pine